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\*\*\* YOU HAVE NEW MAIL \*\*\*

=> s guanidin? and graft (4a) dextran  
L1 19 GUANIDIN? AND GRAFT (4A) DEXTRAN

=> s l1 and lysine  
L2 17 L1 AND LYSINE

=> dup rem l2  
PROCESSING COMPLETED FOR L2  
L3 11 DUP REM L2 (6 DUPLICATES REMOVED)

=> d l3 bib abs 1-11

L3 ANSWER 1 OF 11 USPATFULL on STN  
AN 2009:138221 USPATFULL  
TI Influenza Therapeutic  
IN Chen, Jianzhu, Lexington, MA, UNITED STATES  
Eisen, Herman N., Waban, MA, UNITED STATES  
Ge, Qing, Cambridge, MA, UNITED STATES  
PI US 20090124567 A1 20090514  
AI US 2008-167593 A1 20080703 (12)  
RLI Continuation of Ser. No. US 2003-674159, filed on 29 Sep 2003, PENDING  
PRAI WO 2003-US30502 20030929  
WO 2003-US30508 20030929  
US 2003-446377P 20030210 (60)  
US 2002-414457P 20020928 (60)  
DT Utility  
FS APPLICATION  
LREP CHOATE, HALL & STEWART LLP, TWO INTERNATIONAL PLACE, BOSTON, MA, 02110,  
US  
CLMN Number of Claims: 75  
ECL Exemplary Claim: 1-200  
DRWN 56 Drawing Page(s)  
LN.CNT 8326  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB The present invention provides methods and compositions for inhibiting

influenza infection and/or replication based on the phenomenon of RNA interference (RNAi) well as systems for identifying effective siRNAs and shRNAs for inhibiting influenza virus and systems for studying influenza virus infective mechanisms. The invention also provides methods and compositions for inhibiting infection, pathogenicity and/or replication of other infectious agents, particularly those that infect cells that are directly accessible from outside the body, e.g., skin cells or mucosal cells. In addition, the invention provides compositions comprising an RNAi-inducing entity, e.g., an siRNA, shRNA, or RNAi-inducing vector targeted to an influenza virus transcript and any of a variety of delivery agents. The invention further includes methods of use of the compositions for treatment of influenza.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 2 OF 11 USPATFULL on STN  
AN 2009:118344 USPATFULL  
TI Influenza Therapeutic  
IN Chen, Jianzhu, Lexington, MA, UNITED STATES  
Eisen, Herman N., Waban, MA, UNITED STATES  
Ge, Qing, Cambridge, MA, UNITED STATES  
PA Massachusetts Institute of Technology, Cambridge, MA, UNITED STATES  
(U.S. corporation)  
PI US 20090106852 A1 20090423  
AI US 2007-952056 A1 20071206 (11)  
RLI Continuation of Ser. No. US 2003-674159, filed on 29 Sep 2003, PENDING  
PRAI US 2002-414457P 20020928 (60)  
US 2003-446377P 20030210 (60)  
DT Utility  
FS APPLICATION  
LREP CHOATE, HALL & STEWART LLP, TWO INTERNATIONAL PLACE, BOSTON, MA, 02110,  
US  
CLMN Number of Claims: 79  
ECL Exemplary Claim: 1-200  
DRWN 56 Drawing Page(s)  
LN.CNT 8211

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods and compositions for inhibiting influenza infection and/or replication based on the phenomenon of RNA interference (RNAi) well as systems for identifying effective siRNAs and shRNAs for inhibiting influenza virus and systems for studying influenza virus infective mechanisms. The invention also provides methods and compositions for inhibiting infection, pathogenicity and/or replication of other infectious agents, particularly those that infect cells that are directly accessible from outside the body, e.g., skin cells or mucosal cells. In addition, the invention provides compositions comprising an RNAi-inducing entity, e.g., an siRNA, shRNA, or RNAi-inducing vector targeted to an influenza virus transcript and any of a variety of delivery agents. The invention further includes methods of use of the compositions for treatment of influenza.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 3 OF 11 USPATFULL on STN  
AN 2008:24014 USPATFULL  
TI Substance Capable Of Accelerating Nucleotide Chain Exchange Reaction  
IN Maruyama, Atsushi, Sagamihara-shi, JAPAN  
PA Japan Science and Technology Agency, Samitama, JAPAN (non-U.S.  
corporation)  
PI US 20080021195 A1 20080124  
AI US 2004-591268 A1 20040729 (10)

WO 2004-JP10824 20040729  
PRAI JP 2004-58336 20070618 PCT 371 date  
DT Utility  
FS APPLICATION  
LREP BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747,  
US  
CLMN Number of Claims: 14  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Page(s)  
LN.CNT 628

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The purpose of the present invention is to provide a substance having a several ten to several hundred-fold exchange reaction accelerating activity as compared with that of conventional copolymers. In particular, the invention provides a preparation for accelerating an exchange reaction between a nucleotide sequence at specific site of a double stranded DNA or RNA for its homologous nucleotide sequence, the preparation comprising a cationic polymer having a guanidine group-containing main chain and a hydrophilic functional groups as an active ingredient. Thus, a substance having a several ten to several hundred-fold exchange reaction accelerating activity as compared with that of conventional copolymers can be provided. With this substance, the nucleotide chain exchange can be performed at a lower temperature and/or a higher rate than in the prior art.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 4 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN  
DUPLICATE 1  
AN 2008:163213 BIOSIS  
DN PREV200800167190  
TI Activation of DNA strand exchange by cationic comb-type copolymers: effect  
of cationic moieties of the copolymers.  
AU Choi, Sung Won; Kano, Arihiro; Maruyama, Atsushi [Reprint Author]  
CS Kyushu Univ, Inst Mat Chem and Engn, 744-CE11 Motoooka, Fukuoka 8190395,  
Japan  
maruyama@ms.ifoc.kyushu-u.ac.jp  
SO Nucleic Acids Research, (JAN 2008) Vol. 36, No. 1, pp. 342-351.  
CODEN: NARHAD. ISSN: 0305-1048.  
DT Article  
LA English  
ED Entered STN: 5 Mar 2008  
Last Updated on STN: 9 Apr 2008  
AB We have previously reported that poly(L-lysine)-graft-dextran cationic comb-type copolymers accelerate strand exchange reaction between duplex DNA and its complementary single strand by >4 orders of magnitude, while stabilizing duplex. However, the stabilization of the duplex is considered principally unfavourable for the accelerating activity since the strand exchange reaction requires, at least, partial melting of the initial duplex. Here we report the effects of different cationic moieties of cationic comb-type copolymers on the accelerating activity. The copolymer having guanidino groups exhibited markedly higher accelerating effect on strand exchange reactions than that having primary amino groups. The high accelerating effect of the former is considered to be due to its lower stabilizing effect on duplex DNA, resulting from its increased affinity to single-stranded DNA. The difference in affinity was clearly demonstrated by a fluorescence correlation spectroscopy study; the interaction of the former with single-stranded DNA still remained high even at 1 M NaCl, while that of the latter completely disappeared. These results suggest that some modes

of interactions, such as hydrogen bonding, other than electrostatic interactions between the copolymers having guanidino groups and DNAs may be involved in strand exchange activation.

L3 ANSWER 5 OF 11 USPATFULL on STN  
AN 2006:189319 USPATFULL  
TI Influenza therapeutic  
IN Chen, Jianzhu, Brookline, MA, UNITED STATES  
Ge, Qing, Cambridge, MA, UNITED STATES  
Eisen, Herman N., Waban, MA, UNITED STATES  
PI US 20060160759 A1 20060720  
AI US 2005-102097 A1 20050408 (11)  
RLI Continuation-in-part of Ser. No. US 2003-674159, filed on 29 Sep 2003,  
PENDING Continuation-in-part of Ser. No. US 2003-674087, filed on 29 Sep  
2003, PENDING  
PRAI US 2002-414457P 20020928 (60)  
US 2003-446377P 20030210 (60)  
US 2005-664580P 20050322 (60)  
DT Utility  
FS APPLICATION  
LREP CHOATE, HALL & STEWART LLP, TWO INTERNATIONAL PLACE, BOSTON, MA, 02110,  
US  
CLMN Number of Claims: 73  
ECL Exemplary Claim: 1  
DRWN 124 Drawing Page(s)  
LN.CNT 8470

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides compositions comprising an RNAi-inducing entity targeted to an influenza virus transcript and any of a variety of delivery agents. The invention further includes methods of use of the compositions for inhibiting a biological activity of an influenza virus and/or for treatment or prevention of influenza. The invention provides target portion sequences that are favorably conserved for RNAi across a plurality of influenza virus A strains isolated from human hosts and/or avian hosts and RNAi-inducing entities, e.g., siRNAs and shRNAs, targeted to such favorably conserved target portions. The invention provides a variety of nucleic acids comprising sequences identical or complementary to at least a portion of one or more of these favorably conserved target portion sequences. The invention further provides methods and compositions for delivering RNAi-inducing agents to an organ or tissue of a mammalian subject, e.g., to the lung. Methods of diagnosing influenza and determining the susceptibility of an influenza virus to inhibition by an RNAi-inducing agent are also provided. Transgenic animals that express an RNAi-inducing agent targeted to an influenza gene are another aspect of the invention.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 6 OF 11 MEDLINE on STN DUPLICATE 2  
AN 2006714288 MEDLINE  
DN PubMed ID: 17150800  
TI Structural effect of cationic copolymers on nucleic acid-chaperoning activity.  
AU Takada Kaoru; Choi Sung Won; Yamayoshi Asako; Kano Arihiro; Maruyama Atsushi  
CS Institute for Materials Chemistry and Engineering, Kyushu University,  
6-10-1 Hakozaki, Fukuoka 812-8581, Japan.  
SO Nucleic acids symposium series (2004), (2006) No. 50, pp. 27-8.  
CY Journal code: 101259965. E-ISSN: 1746-8272.  
DT England: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)

LA English  
FS Priority Journals  
EM 200708  
ED Entered STN: 12 Dec 2006  
Last Updated on STN: 18 Aug 2007  
Entered Medline: 17 Aug 2007  
AB In order to evaluate the effect of cationic copolymer structures on their nucleic acid-chaperoning activity, we prepared various copolymers having different cationic residues or backbone molecular weight. It was revealed that nucleic acid-chaperoning activity increases with increasing molecular weight of the copolymer backbone and that the copolymer having the guanidino groups is effective for increasing nucleic acid-chaperoning activity. Compared with PLL-g-Dex, GPLL-g-Dex has weak activity to stabilize ds DNA. This weak stabilization effect of GPLL-g-Dex may contribute to the higher accelerating effect.

L3 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2009 ACS on STN  
AN 2005:1004872 CAPLUS  
DN 143:280578  
TI Acceleration of DNA strand exchange reaction by cationic polymers  
IN Maruyama, Atsushi  
PA Japan Science and Technology Agency, Japan  
SO PCT Int. Appl., 34 pp.  
CODEN: PIXXD2

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005085432	A1	20050915	WO 2004-JP10824	20040729
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2575954	A1	20050915	CA 2004-2575954	20040729
	US 20080021195	A1	20080124	US 2007-591268	20070618
PRAI	JP 2004-58336	A	20040303		
	WO 2004-JP10824	W	20040729		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB There are provided preps. for accelerating strand exchange reaction of double stranded DNA or RNA with a nucleotide sequence homologous to the sequence, which comprise a cationic polymer having a guanidino group-containing main chain and hydrophilic functional groups as an active ingredient. The accelerating effect of cationic substances on the DNA strand exchange reaction between a 20 bp DNA duplex and its complementary single strand was studied. A polycationic comb-type copolymer, that consists of a poly(L-lysine) backbone and a dextran graft chain ( $\alpha$ PLL-g-Dex) and known to stabilize triplex DNA, expedites the strand exchange reaction under physiol. relevant conditions. It was demonstrated that the strand exchange rate is considerably accelerated by the polycation comb-type copolymer.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 11 USPATFULL on STN  
AN 2005:10485 USPATFULL  
TI Compositions and methods for delivery of short interfering RNA and short hairpin RNA  
IN Chen, Jianzhu, Brookline, MA, UNITED STATES  
Eisen, Herman N., Waban, MA, UNITED STATES  
Ge, Qing, Cambridge, MA, UNITED STATES  
PA Massachusetts Institute of Technology (U.S. corporation)  
PI US 20050008617 A1 20050113  
AI US 2003-674087 A1 20030929 (10)  
PRAI US 2002-414457P 20020928 (60)  
US 2003-446377P 20030210 (60)  
DT Utility  
FS APPLICATION  
LREP Choate, Hall & Stewart, Exchange Place, 53 State Street, Boston, MA, 02109  
CLMN Number of Claims: 97  
ECL Exemplary Claim: 1  
DRWN 19 Drawing Page(s)  
LN.CNT 4786  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB The present invention provides compositions comprising an RNAi-inducing entity any of a variety of different delivery agents. Preferred RNAi-inducing agents include siRNA, shRNA, and RNAi-inducing vectors. Preferred delivery agents include cationic polymers, modified cationic polymers, lipids, and surfactants suitable for introduction into the lung. The invention further provides methods of inhibiting expression of a target transcript in a mammal and methods of treating or preventing a disease or condition in a mammal by administration of the compositions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 9 OF 11 MEDLINE on STN DUPLICATE 3  
AN 2006714255 MEDLINE  
DN PubMed ID: 17150767  
TI The molecular structure effect of cationic comb-type copolymers on nucleic acid chaperone activity.  
AU Choi Sung Won; Takada Kaoru; Mochida Junji; Yamayosh Asako; Kano Arihiro; Maruyama Atsushi  
CS Institute for Materials Chemistry and Engineering, Kyushu University, 6-10-1 Hakozaki, Higashi-ku, Fukuoka 812-8581, Japan.  
SO Nucleic acids symposium series (2004), (2005) No. 49, pp. 329-30.  
Journal code: 101259965. E-ISSN: 1746-8272.  
CY England: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
(RESEARCH SUPPORT, NON-U.S. GOV'T)  
LA English  
FS Priority Journals  
EM 200706  
ED Entered STN: 12 Dec 2006  
Last Updated on STN: 13 Jun 2007  
Entered Medline: 12 Jun 2007  
AB We have shown that the cationic comb-type copolymers (CCCs) accelerate DNA hybridization and increase stability of DNA duplexes and triplexes. The CCCs were considered to act as "nucleic acid chaperones," promoting the formation of the most stable hybrids. In this study, CCCs with primary amino or guanidino groups were prepared to evaluate the effects of different cationic moieties upon the nucleic acid chaperone activity. CCCs having guanidino groups have higher accelerating effect on DNA strand exchange reactions than that having primary amino groups. It was suggested that some modes of interactions, such as hydrogen bonding,

other than ionic interactions between the copolymers and DNAs may be involved upon the strand exchange activation.

L3 ANSWER 10 OF 11 USPATFULL on STN  
AN 2004:307842 USPATFULL  
TI Influenza therapeutic  
IN Chen, Jianzhu, Brookline, MA, UNITED STATES  
Eisen, Herman N., Waban, MA, UNITED STATES  
Ge, Qing, Cambridge, MA, UNITED STATES  
PA Massachusetts Institute of Technology (U.S. corporation)  
PI US 20040242518 A1 20041202  
AI US 2003-674159 A1 20030929 (10)  
PRAI WO 2003-US30502 20030929  
WO 2003-US30508 20030929  
US 2002-414457P 20020928 (60)  
US 2003-446377P 20030210 (60)  
DT Utility  
FS APPLICATION  
LREP Choate, Hall & Stewart, Exchange Place, 53 State Street, Boston, MA,  
02109  
CLMN Number of Claims: 200  
ECL Exemplary Claim: 1  
DRWN 56 Drawing Page(s)  
LN.CNT 8786

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods and compositions for inhibiting influenza infection and/or replication based on the phenomenon of RNA interference (RNAi) well as systems for identifying effective siRNAs and shRNAs for inhibiting influenza virus and systems for studying influenza virus infective mechanisms. The invention also provides methods and compositions for inhibiting infection, pathogenicity and/or replication of other infectious agents, particularly those that infect cells that are directly accessible from outside the body, e.g., skin cells or mucosal cells. In addition, the invention provides compositions comprising an RNAi-inducing entity, e.g., an siRNA, shRNA, or RNAi-inducing vector targeted to an influenza virus transcript and any of a variety of delivery agents. The invention further includes methods of use of the compositions for treatment of influenza.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 11 OF 11 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on  
STN DUPLICATE 4  
AN 2005:46786 BIOSIS  
DN PREV200500047566  
TI Preparation of cationic comb-type copolymer having guanidino moieties and its interaction with DNAs.  
AU Choi, Sung Won; Sato, Yuichi; Akaike, Toshihiro; Maruyama, Atsushi [Reprint Author]  
CS Grad Sch Biosci and Biotechnol Dept Biomol Engn, Tokyo Inst Technol, 4259 Nagatsuta, Yokohama, Kanagawa, 2268501, Japan  
amaruyam@bio.titech.ac.jp  
SO Journal of Biomaterials Science Polymer Edition, (2004) Vol. 15, No. 9, pp. 1099-1110. print.  
ISSN: 0920-5063 (ISSN print).  
DT Article  
LA English  
ED Entered STN: 26 Jan 2005  
Last Updated on STN: 26 Jan 2005  
AB In order to evaluate effects of different cationic moieties, such as primary amino and guanidino groups, on interactions between DNAs

and cationic comb-type copolymers, comb-type copolymers having guanidino groups were prepared. The copolymers (GPLL-g-Dex) were obtained by guanidination of poly(L-lysine)-graft-dextran copolymers (PLL-g-Dex) using 1-guanyl-3,5-dimethylpyrazole nitrate under weak basic conditions. The resulting copolymers were characterized using NMR spectroscopy and size-exclusion chromatography-multiangle light scattering (SEC-MALS). The primary amino groups of the PLL backbones were thoroughly replaced with guanidino ones without any detectable side reactions, including fragmentation of PLL or Dex chains. The interactions of GPLL-g-Dex and PLL-g-Dex with DNAs were assessed by UV-melting curve measurements. These copolymers diversly affected the melting behavior of double-stranded DNA (dsDNA): GPLL-g-Dex has a lower ability to increase the T<sub>m</sub> of dsDNA than PLL-g-Dex and also exhibits a higher affinity for dsDNA. The results suggest that the stability of dsDNA may be affected not only by ionic interaction between the copolymers and DNAs, but also by other modes of interactions, such as hydrogen-bonding interactions.